CALIFORNIA ENERGY COMMISSION

EMERGING RENEWABLES PROGRAM

THIRD EDITION

GUIDEBOOK

JULY 2004 P500-03-001F2



Arnold Schwarzenegger, Governor

CALIFORNIA ENERGY COMMISSION

William J. Keese Chairman

Arthur H. Rosenfeld James D. Boyd John L. Geesman Jackalyne Pfannenstiel Commissioners

Robert L. Therkelsen Executive Director

Marwan Masri, Deputy Director, Technology Systems Division

Jim Hoffsis, Manager Technology Market Development Office

Tim Tutt, *Technical Director Renewable Energy Program*

Tony Brasil, Supervisor Emerging Renewables Program

Dale Trenschel, Lead Emerging Renewables Program

Mike Chrisman Secretary for Resources These guidelines were formally adopted by the California Energy Commission on February 19, 2003, pursuant to Public Utilities Code section 383.5, subdivision (h) and subsequently revised pursuant to this authority on December 17, 2003. These guidelines were revised again pursuant to this authority and Public Resources Code section 25747, subdivision (a), on May 19, 2004 and June 30. 2004.

TABLE OF CONTENTS

I - INTRODUCTION	1
A. PURPOSE B. OVERVIEW	1 2
II - WHAT ARE THE ELIGIBILITY REQUIREMENTS	4
A. SYSTEM OWNERSHIP B. GRID INTERCONNECTION C. SYSTEM COMPONENTS D. NEW EQUIPMENT E. SYSTEM SIZED TO OFFSET ON-SITE ELECTRICITY LOAD F. SYSTEM INSTALLATION G. FIVE-YEAR WARRANTY REQUIREMENTS H. SYSTEM PERFORMANCE METER I. RETAILERS J. AUDITS AND INSPECTIONS	4 4 4 5 5 5 6 6 6
III - INCENTIVES OFFERED THROUGH THIS PROGRAM	8
 A. REBATES OFFERED B. OTHER INCENTIVES MAY AFFECT YOUR REBATE AMOUNT C. PERFORMANCE-BASED INCENTIVES FOR PHOTOVOLTAIC SYSTEMS D. AVAILABLE FUNDS E. ADJUSTMENT OF REBATE LEVELS 	8 9 9 9
IV - RESERVATION PROCESS	10
 A. RESERVING A REBATE 1. Reservation Request Form 2. Evidence of Agreement to Purchase and Install a System 3. Evidence that Site Electricity Load is Supplied by Eligible Utility 4. Payee Data Record (Form STD-204) 5. Submitting Your Complete Reservation Application 	11 11 12 14 14 14
V - PAYMENT PROCESS	16
 A. CLAIMING A REBATE PAYMENT 1. Payment Claim Form 2. Documentation Confirming Final Payment and System Installation 3. Building Permit and Final Inspection Sign Off 4. Five-year Warranty 5. System Interconnection with Utility Grid B. SUBMITTING A PAYMENT CLAIM C. CLAIMING A REBATE PAYMENT WITHOUT A PRIOR RESERVATION D. ASSIGNMENT OF REBATE PAYMENT 	16 16 16 17 17 17 18 19
VI – MODIFICATIONS OR CHANGES TO RESERVATIONS	20
A. CAN MY INSTALLED SYSTEM BE DIFFERENT THAN MY RESERVATION? 1. How Do Changes Affect the Rebate Amount	20 20
VII - FLIGIRI F SYSTEM COSTS	21

A. B.	WHAT SYSTEM COSTS ARE ELIGIBLE? WHAT COSTS ARE NOT ELIGIBLE?	21 21
VIII - S	SPECIAL FUNDING	22
2	. Requirements for the Solar Schools Program	22 22 23 23
APPE	ENDIX 1 - FORMS AND WORKSHEETS	'
APPE	ENDIX 2 - TIPS FOR CONSUMERS	1
A. B. C.	CHOOSING A CONTRACTOR CHOOSING A RETAILER HOW MUCH ENERGY DOES A SYSTEM PRODUCE?	1 1 1
APPE	ENDIX 3 - CRITERIA FOR LISTING COMPONENTS AS ELIGIBLE	1
A. B. C. D. E. F. G.	PHOTOVOLTAIC MODULES SOLAR THERMAL FUEL CELLS SMALL WIND INVERTERS METERING CRITERIA OTHER TECHNOLOGIES	1 1 1 2 2 2 2
APPE	ENDIX 4 - MAXIMUM SYSTEM SIZE CALCULATIONS	1
	MAXIMUM SYSTEM SIZE CALCULATIONS New or expanded site electrical load Peak load capacity option	1 1 1
APPE	ENDIX 5 - ATYPICAL INCENTIVE APPLICATIONS	1
A. B. C. D. E.	NEW CONSTRUCTION (BUILDING PERMIT) NEW HOUSING DEVELOPMENT SYSTEMS INSTALLED BY SELLERS OR CONTRACTORS FOR THEIR OWN PERSONAL OR BUSINESS USE ADDING TO EXISTING SYSTEMS SPECIAL REQUIREMENTS FOR LEASED SYSTEMS TIME EXTENSION REQUESTS	1 1 2 2 3 4

I - Introduction

This *Emerging Renewables Program Guidebook* is one of several guidebooks the California Energy Commission (Energy Commission) has adopted to implement the Renewable Energy Program pursuant to Senate Bill 1038 (SB 1038; Sher, Chapter 515, Statutes Of 2002) as amended by Senate Bill 183 (SB 183, Sher, Statutes of 2003, Chapter 666). It describes the requirements for receiving funding for the installation and operation of renewable technologies under the Emerging Renewables Program element of the Renewable Energy Program.¹

The Energy Commission has adopted other guidebooks to address the requirements for the other elements of the Renewable Energy Program and guidelines governing the overall administration of the Renewable Energy Program. The *Overall Program Guidebook* describes how the Renewable Energy Program will be administered and includes information and requirements that apply to all program elements of the Renewable Energy Program.

Applicants requesting funding under the Emerging Renewables Program must satisfy the requirements contained in both the *Overall Program Guidebook* and this *Emerging Renewables Program Guidebook*. These guidebooks replace the *Overall Guidelines for the Renewable Resource Trust Fund, Fifth Edition* and the previous guidebooks governing the Emerging Renewables Program (*the Emerging Renewables Program Guidebook, Second Edition*). Applications for funding approved under the previous program remain governed by the previous guidebooks until the projects are completed, expired, or cancelled.

The Emerging Renewables Program builds on the experience of the Emerging Renewable Buydown Program (ERBP), which began in 1998 and operated through most of 2002. Over 3800 new systems were installed through the ERBP from 1998 through 2002 and a total exceeding 7,200 systems were installed by January 2004. Most of these systems utilized solar photovoltaic (PV) technology which uses a semiconductor to convert light directly into electricity.

A. Purpose

The Emerging Renewables Program (ERP) was created to help develop a self-sustaining market for renewable energy systems that supply on-site electricity needs across

¹ Emerging technologies currently include photovoltaics, solar thermal electric, fuel cells and wind turbines.

California. Through this program, the Energy Commission provides funding to offset the cost of purchasing new renewable energy systems using emerging technologies.

The goal of the ERP is to reduce the net cost of on-site renewable energy systems to end use consumers, and thereby stimulate demand and increased sales of such systems. Increased sales are expected to encourage manufacturers, sellers, and installers to expand operations, improve distribution, and reduce system costs.

The ERP is one of several program elements within the Energy Commission's Renewable Energy Program. Funding for the Renewable Energy Program is collected from the ratepayers of four investor-owned utilities in California to support existing, new, and emerging renewable electricity generation technologies. For more information about the Renewable Energy Program please visit the Energy Commission's website at [www.consumerenergycenter.org].

For consumer tips on purchasing a renewable energy system to supply on-site electricity needs please refer to Appendix 2 of this guidebook. Also see *A Guide to Photovoltaic (PV) System Design and Installation*, June 2001, (P500-01-020) and *Buying a Small Wind Electric System*, February 2002 for further information. These and other documents are also available on the Energy Commission's website.

B. Overview

The ERP provides consumers of electricity with a financial incentive to install renewable energy systems on their property. The financial incentive varies based on system size, technology, and type of installation. The incentive is paid once the system is installed and operational. The consumer must apply to the Energy Commission for funding using the protocols in this guidebook.

To qualify for an incentive, both the consumer and the renewable energy system must satisfy a number of requirements. The consumer must receive electricity distribution service at the site of installation from an existing in-state electrical corporation contributing funds to support the program. These electrical corporations are Pacific Gas & Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E) and Southern California Water Company (doing business as Bear Valley Electric Service (BVE)). The renewable energy system must utilize an emerging renewable technology, such as solar photovoltaic, solar thermal-electric, fuel cells, or small wind turbines.² The system must also be interconnected to the utility distribution grid, must use new components that are certified or tested to be reliable, and

_

² The incentive is available for systems less that 30 kilowatts in size (wind systems up to 50 kilowatts may participate, but the incentive is currently limited to less than 30 kilowatts.) If you have questions or require additional information about the Energy Commission's Emerging Renewables Program, call 1 (800)555-7794.

must come with a five-year warranty. In addition, the renewable energy system must generate electricity to offset the consumer's on-site electrical load.

In most cases, an applicant submits a Reservation Request Form (CEC 1038 R1) and supporting documentation to reserve a fixed amount of program funds. Once the Reservation Request Form is reviewed and approved, the Energy Commission sends the applicant a Payment Claim Form (CEC 1038 R2) that identifies the amount of funds reserved. The applicant then proceeds to install an eligible system. When the system is completed and operational, the applicant then submits the Payment Claim Form and supporting documentation to the Energy Commission. If the applicant installs an eligible system, meets all program requirements, and submits the Payment Claim Form prior to the expiration date of the reservation, the Energy Commission reviews the amount reserved and the incentive the applicant is eligible to receive and makes payment in this amount.

For forms or additional information, contact the Energy Commission's Call Center at:

1 (800) 555-7794 or go to:

[http://www.consumerenergycenter.org/erprebate/index.html]

II - What Are the Eligibility Requirements

Currently, four technologies are eligible for ERP funding. They include the following:

- 1. Photovoltaic the direct conversion of sunlight to electricity.
- 2. Solar Thermal Electric the conversion of sunlight to heat and its concentration and use to power a generator to produce electricity.
- 3. Fuel Cell the conversion of sewer gas, land fill gas, or other renewable sources of hydrogen or hydrogen rich gases into electricity by a direct chemical process.
- 4. Small Wind Turbines small electricity-producing, wind-driven generating systems with a rated output of 50 kilowatts or less.

Other technologies may be added to this category if the criteria identified in Appendix 3 are met to the Energy Commission's satisfaction. Systems that use the above technologies must satisfy the following eligibility criteria as explained in this chapter.

A. System Ownership

Eligible renewable energy systems may not be owned by an electrical corporation as defined in Public Utilities Code section 218, or by a local publicly owned electric utility as defined in Public Utilities Code section 9604(d).

B. Grid Interconnection

Eligible renewable energy systems must be permanently interconnected to the electrical distribution grid of the utility serving the customer's electrical load. Portable systems are not eligible. The site where the system is installed must receive electrical distribution service from PG&E, SCE, SDG&E or BVE. The system interconnection must comply with applicable electrical codes and utility interconnection requirements.

C. System Components

The major system components must be certified or approved as described in Appendix 3. Approved major components are on the Energy Commission's lists of eligible components and are available at:

- 1. [www.consumerenergycenter.org/erprebate] or
- 2. by requesting copies from the Energy Commission call center staff at (800) 555-7794.

The applicant should confirm that the components purchased for a system are eligible when applying for ERP funding. The Energy Commission staff will confirm that equipment identified in a reservation application meets eligibility requirements prior to an application being approved. However, if the applicant begins or completes the installation before the

Energy Commission has approved the reservation, equipment lists may have changed, and significant and costly changes may be needed for the system to comply with the eligibility criteria.

D. New Equipment

All major system components (requiring certification per section C) must be new and must not have been previously placed in service in any other location or for any other application. Equipment purchased or installed more than 18 months before applying for a reservation is not eligible.

E. System Sized to Offset On-site Electricity Load

For all eligible systems regardless of technology, the system must be sized so that the amount of electricity produced by the system primarily offsets part or all of the customer's electrical needs at the site of installation. The expected production of electricity by the system may not be more than twice the historical or expected electrical needs of the electricity consumer at the site of installation. In most cases the system size limitation will not affect systems less than 10 kW because the average annual residential electricity consumption in California is about 7,000 kWh/year. The maximum size of a system that would primarily offset this average load, given conservative system production, is about 13 kW. See Appendix 4 for further details on how to determine the maximum allowed system size.

F. System Installation

All systems, if installed under contract, must be installed by appropriately licensed California contractors in accordance with rules and regulations adopted by the State of California Contractors' State Licensing Board. Installation contractors must have an active A, B, or C-10 license, or a C-46 license for photovoltaic systems.

The Energy Commission encourages installation contractors to become certified by the North American Board of Certified Energy Practitioners (NABCEP).

Systems may also be self-installed by the purchaser (owner). While such installations are eligible without the licensing requirements listed, they will be eligible only for a lesser rebate as described in Chapter III.

In all cases, systems must be installed in conformance with the manufacturer's specifications and with all applicable electrical and building codes and standards³.

_

³ For information on restrictions placed on owner-builders or self-installers, contact the Contractor's State License Board at 1-800-321-CSLB to obtain a current edition of the Contractor's License Law and Handbook.

G. Five-year Warranty Requirements

All systems must have a minimum five-year warranty to protect the purchaser against system or component breakdown. The warranty must cover and provide for no-cost repair or replacement of the system or system components including any associated labor for five years. The warranty must also cover the major components of the generating system against breakdown or degradation in electrical output of more than ten percent from their originally rated electrical output during the five year period. Major components are defined as photovoltaic modules, wind turbine generators, solar thermal engines and dishes, fuel cell reformers and cells, and inverters. The warranty may be provided in combination by the manufacturer and installer.

Self-installed systems must have a minimum five-year warranty to protect the purchaser against breakdown or electrical output degradation of major system components. The warranty need not cover the labor costs associated with removing or replacing major components since the repairs would be done by the self-installer.

H. System Performance Meter

All systems must be installed with a performance meter⁴ so that the customer can determine the amount of energy produced by the system. The meter must be listed with the Energy Commission and measure the total energy produced by the system in kilowatt hours (or watt hours) and have a manufacturer's uncertainty specification of plus or minus five percent. The meter must retain the kilowatt-hour production data in the event of a power outage and must provide a display of system output that the customer can easily view and understand. A system need not include a separate meter if the system is installed with an inverter that contains internal metering and display equipment that meets the meter requirements above. The meter requirement also applies to system additions if the existing system does not include a performance meter. A list of eligible performance meters and inverters that have built-in meters is available at [http://www.consumerenergycenter.com/erprebate].

I. Retailers

To participate in the ERP, retailers must provide the Energy Commission with the following information:

- 1) Business name, address, phone, fax, and e-mail address
- 2) Owner or principal contact
- 3) Business license number

⁴ A performance meter is a device which measures and displays the energy output of the renewable energy system.

- 4) Contractor license number (if applicable)
- 5) Proof of good standing on the records of the California Secretary of State, as required for corporate and limited liability entities
- 6) Reseller's license number

This information may be submitted at any time that a retailer wishes to become eligible to participate in the ERP. To remain eligible, the information must be resubmitted annually, by March 31, using form CEC 1038 R4. This information must be on file with the Energy Commission before the applicant can receive any reservation confirmation or rebate payment. The Energy Commission will compile this retailer information and make it available to consumers to assist them in making purchase decisions and effectuating remedial action. Send the completed CEC 1038 R4 form by telefax to (916) 653-2543 or by mail to:

ERP Seller Registration California Energy Commission 1516 - 9th Street, MS-45 Sacramento, CA 95814-5512

Reservation requests must be mailed, but seller registration and responses to Energy Commission correction requests may be faxed.

J. Audits and Inspections

The Energy Commission will conduct audits of the applications it receives to verify that the information provided in the applications is true and correct. The Energy Commission may also conduct field inspections to verify systems are operating properly and installed as specified in the reservation request and payment claim applications.

III - Incentives Offered Through This Program

A. Rebates Offered

The rebates offered through this program vary by system size, technology, and type of installation. The incentive must be used to reduce the purchase or lease cost of the eligible system, or the cost of electricity produced by the eligible system for the on site customer.

The rebates offered for professionally installed new systems are identified below in Table 1. Lower rebates, 15 percent less, are also available for owner or self installed systems. Additionally, special rebates are available for systems installed for affordable housing, and public and charter schools. Because these special rebates target specific groups or classes of customers, they are discussed separately in Chapter VIII of this guidebook. Under no circumstance will the incentive from the ERP exceed the net purchase price of the system to the final customer (before ERP incentives).

Table 1 lists the rebate levels available as of January 1, 2004 by size category and technology type. These rebate levels are expected to decline over time as described in section E of this chapter.

Table 1: Rebates Available for Emerging Renewable Systems

Technology Type	Size Category	Rebate Offered*	
Photovoltaic.	<30 kW	\$3.20 per Watt	
r notovoitaic,	=>30 kW	Future Performance Incentive	
Solar Thermal Electric Fuel Cells using a renewable fuel**	<30 kW	\$3.60 per Watt	
Solar Thermal Electric Fuel Cells using a renewable fuel	=>30 kW	Future Performance Incentive	
	First 7.5 kW	\$2.10 per Watt	
Wind	Increments above 7.5 kW up to 30 kW	\$1.10 per Watt	
	=> 30 up to 50 kW	Future Performance Incentive	

^{*} Rebates for owner installed systems are discounted by 15 percent.

^{**} Fuel cells that operate on non-renewable fuels and are used in combined heat and power applications may be eligible for rebates at a later date when funds from other sources, such as the Self Generation Incentive Program, are no longer available.

B. Other Incentives May Affect Your Rebate Amount

Incentives received from sources other than the ERP that lower the cost of a generating system may affect the rebate amount you receive from the Energy Commission. Fifty percent (50%) of incentives received or expected must be subtracted from the rebate amounts listed in Table1 if the incentives are from other utility incentive programs, a State of California sponsored incentive program, or a federal government sponsored incentive program, other than tax credits. No applicant may be issued a reservation or receive payment from the ERP if the same system is participating, or has participated, in the California Public Utilities Commission approved Self Generation Incentive Program or the Rebuild San Diego Program or any other rebate program using ratepayer funds.

See Chapter VIII of this guidebook for information regarding rebate levels for qualifying affordable housing and public and charter schools.

C. Performance-Based Incentives for Photovoltaic Systems

This portion of the program will be developed at a later date.

D. Available Funds

As discussed in the *Overall Program Guidebook*, approximately \$118,125,000 in funding was allocated to the ERP for 2002 through 2006. Additional allocations are governed by the Overall Program Guidebook. Any funding added to the ERP will be allocated to systems less than 30 kW unless otherwise specified. Ten million dollars is allocated to performance-based incentives.

E. Adjustment of Rebate Levels

The rebate levels for all technology types will be reduced by 20 cents per watt every six months beginning July 1, 2003 (and every January 1st and July 1st thereafter). In addition, the rebate level for photovoltaic systems was reduced an additional 40 cents per watt beginning January 1, 2004 to \$3.20 per watt.

IV - Reservation Process

Through this program, funding is reserved for applicants who have committed to purchase and install an eligible system at a given site. A funding reservation provides the purchaser assurance that the reserved funds will be available when the payment claim is made. The standard reservation period is for six months. The reservation period for systems installed on public and charter schools and new construction is 18 months. Program funding is available for only one system at each site. Applicants with an 18 month reservation period can not reapply for a new reservation during the term of their original reservation period. These applicants may reapply for a new reservation only after the term of their original reservation period expires, and may qualify for rebate levels available at that time.

Funding reservations are made only for complete applications on a first come, first served basis. In addition, a reservation will not be issued for a system with installed costs that are significantly higher than the average cost of similar systems unless the applicant provides documentation to justify the system's higher costs. Applications that do not comply with contracting regulations, such as excessive down payments, or are missing application forms or have other major omissions or discrepancies, will be returned to the applicant without processing.

In cases with minor omissions or discrepancies, additional information may be requested to clarify the application. Such applications will not be processed until the requested information is provided. If this information is not provided within the time period specified in the request, the application will be disapproved and will be returned to the applicant.

No payment will be made unless the installed system meets all applicable ERP requirements even if funds are reserved.

A public entity submitting an application to the ERP must also certify that it is in compliance with the provisions of Civil Code section 714. This law makes void and unenforceable any covenant, restriction or condition in any deed, contract or other instrument affecting the transfer, sale of, or interest in real property that unreasonably restricts the installation of solar energy systems, as defined in the law. This law also requires that the appropriate public entities process and approve applications for installation of solar energy systems in a manner consistent with the entities approval process for architectural modifications, and that the entities not willfully avoid or delay the application review and approval process.

_

⁵ The site is defined as a single parcel of real property plus any improvements on that site except in cases where there are 5 or more high density dwelling units such as condominiums or apartments on a single parcel. If 5 or more units are at one site, then utility meter numbers will be used to determine the number of reservations that may be granted for systems installed at the site.

Only one reservation and one payment will be allowed for each site with a standard six month reservation period.⁶ The application information and funding reserved can be modified (except for the expiration date) within that six month reservation period with supporting documentation and if sufficient funds are available.

A. Reserving a Rebate

This section describes the paperwork that is required to reserve funding. Please be sure to submit a complete reservation application and provide all the supporting documentation described below to receive your reservation. The reservation process will be delayed if incomplete, incorrect or noncomplying information is received. To obtain a rebate reservation, you must submit the following items:

- A completed Reservation Request Form (CEC-1038 R-1)
- Copy of agreement(s) to purchase and install a system
- Evidence that site electricity load is supplied by an eligible utility
- Payee data record (Form STD-204) for the rebate recipient

Please see Chapter V for the documentation requirements to claim a rebate payment.

Chapter VIII covers the special funding requirements for the rebates for affordable housing and public and charter schools. Appendix 5 covers new housing developments, new construction, systems installed on property owned by retailers and/or contractors, adding to existing systems, and leased systems.

1. Reservation Request Form

The purchaser of the system must always sign the Reservation Request Form (CEC 1038 R1). If the seller of the system is designated as the payee, the seller (retailer or wholesaler) must also sign. The purchaser must use a registered equipment seller. A listing of registered sellers may be found at:

[http://www.consumerenergycenter.org/erprebate/database/index.html]

Eligible equipment sellers need to have filed business information (the CEC 1038 R4 form) with the Energy Commission to be eligible to participate in the program. Reservation requests that identify ineligible retailers will not be approved until the required business information is filed with the Energy Commission.

_

⁶ An applicant with a standard reservation may only cancel his or her reservation and reapply for a new reservation within the original six month reservation period if the rebate level has dropped at least one level from the rebate granted in the original reservation. A note or letter explaining the request must be submitted and signed by the purchaser and seller.

Detailed instructions are on the back of the Reservation Request Form (CEC 1038 R1). These instructions also provide information on how the rebate is calculated when the rated system output exceeds the inverter(s) capacity. Appendix 1 includes a blank copy of the Reservation Request Form and accompanying instructions. To obtain additional blank forms, call the Energy Commission Call Center at (800) 555-7794 or download the forms online from the following Energy Commission website:

[www.consumerenergycenter.org/erprebate].

2. Evidence of Agreement to Purchase and Install a System

Evidence of an agreement(s) to purchase and install a system can be demonstrated in one of three ways. The method used depends upon whether the system is owner or contractor installed and if the seller is a separate entity or also performs the installation. Regardless of the situation, applicants submitting an equipment purchase agreement to demonstrate a commitment to purchase, must clearly include the following information in the agreement:

- the quantity, make and model number (as shown on the Energy Commission lists of eligible equipment) for the photovoltaic modules, wind turbines or other generating equipment and for the inverters and system performance meters
- 2. the total purchase price of the system before applying the rebate
- 3. the expected rebate amount from the Energy Commission
- 4. language indicating the purchaser's commitment to buy the system
- 5. signed names of the buyer and seller

Installation contracts must be submitted for contractor installed systems and comply with Contractor's State License Board (CSLB) guidelines. These contracts must contain the following information:

- 1. the name, address and license number of the contractor
- 2. the site address for the system installation
- 3. a description of the work to be performed
- 4. the total agreed to price for the labor to install the system
- 5. payment terms (payment dates and dollar amounts)
- 6. signed names of the purchaser and contractor

Please refer to the CSLB website for more information on CSLB guidelines at:

[http://www.cslb.ca.gov]

Applications with installation contracts that appear to be clearly deficient may be forwarded by the Energy Commission to the CSLB for verification.

A. Owner or Self-Installed System

In situations where the system is installed by the system owner, the applicant must provide the following information:

- An equipment purchase agreement as described above, OR
- invoices or receipts showing that a down payment has been paid of at least 10
 percent of the system's purchase price, if system is purchased as a package, or of
 the major system equipment, if equipment is purchased separately

B. Professionally Installed System with Separate Seller and Installer

In situations where the customer is purchasing the system from a seller and hiring a separate entity (licensed contractor) for installation, the following information must be provided:

- an equipment purchase agreement as described above, OR
- invoices or receipts showing that a down payment of at least 10 percent of the system's purchase price, if the system is purchased as a package, or of the major system equipment, if equipment is purchased separately, has been paid to the seller, AND
- an installation contract as described above

C. Professionally Installed System Purchased from and Installed by the Same Entity

In situations where the customer is purchasing the system from a licensed contractor who is performing both the sale and installation of the system, the following information must be provided:

- a single contract containing the purchase agreement and installation contract information described above, OR
- invoices or receipts showing that a down payment of at least 10 percent of the system's purchase price, if the system is purchased as a package, or of the major system equipment, if equipment is purchased separately, has been paid to the seller, AND
- an installation contract as described above

Entities without a valid A, B, C-10 or C-46 contractor's license may not offer installation services in any agreement.

Information in purchase agreements and labor contracts must be consistent with the information on the application form (CEC 1038 R1).

3. Evidence that Site Electricity Load is Supplied by Eligible Utility

If the installation location currently has electrical service, the purchaser must submit a recent copy of the utility bill showing the service address of the installation site, the name of the purchaser, electric energy usage, and the utility name. Submitting all pages of a utility bill will usually ensure that this information is provided. The utility bill should be no older than six months from the date of application. If the customer name on the utility bill is not the same as the purchaser's, provide an explanation. This or other documentation must show that the annual on-site electrical load justifies the proposed system size (see Appendix 4) before payment will be made.

If the installation location is a new facility without electrical service, the purchaser or seller must submit a copy of the building permit for the new home or improvement and indicate the future electric service provider on the CEC 1038 R1 reservation form.

If the system is being installed on new construction, or the site does not currently have electric service, the expected energy usage can be demonstrated with a statement signed by a qualified architect, engineer, or electrical contractor (C-10 licensed) indicating that the requisite electricity consumption will occur at the site.

4. Payee Data Record (Form STD-204)

This form must be completed by the person or business entity identified as the rebate payee on the Reservation Request Form (CEC 1038 R1). If the designated payee has submitted a complete STD-204 form with a prior application and has already received a rebate payment from the Energy Commission, the STD-204 is not needed again. In these cases the Energy Commission will use data from the prior STD-204 form.

The STD-204 form may be found in Appendix 1 of this guidebook or at: [http://www.documents.dgs.ca.gov/osp/pdf/std204.pdf]

5. Submitting Your Complete Reservation Application

The complete reservation request application must be delivered by mail to:

ERP, Reservation Request California Energy Commission 1516 - 9th Street, MS-45 Sacramento, CA 95814-5512

Faxes are no longer accepted. If the application is submitted close to a scheduled decline in the rebate level, it must be postmarked no later than the last day before the decline to be considered for the higher rebate level. In addition, no funding will be reserved if an

application is incomplete or illegible, has conflicting information or does not otherwise comply with the program requirements. The application will be approved for a reservation based on the date it is deemed complete and not the date it was first submitted. The rebate level and other program criteria applicable on the completion date will apply. As described earlier, if the reservation request application is incomplete and contains major discrepancies or omissions, it will be returned to the applicant unprocessed. If the application contains minor omissions or discrepancies, the Energy Commission may request additional information. Such applications will not be processed until the additional information is provided. If the information is not provided within the time period specified in the request, the application will be disapproved and returned to the applicant. Applicants who have had their applications returned or disapproved may resubmit a new application. The resubmitted new application will be subject to the program requirements and rebate level in place at the time it is resubmitted.

To check the status of your application(s) on-line, go to:

[http://www.consumerenergycenter.org/erprebate/index.html]

For more information on additional requirements for the affordable housing or public or charter school rebates, see Chapter VIII.

The amount of the rebate available changes during the term of the program. Therefore, the Energy Commission recommends that applicants wait to order or install system equipment until after they receive a confirmation indicating the amount of funding that has been reserved for their rebate.

V - Payment Process

A. Claiming a Rebate Payment

• To receive payment of your rebate, you must comply with all program requirements and make a complete claim for payment before the expiration of your reservation.

1. Payment Claim Form

The Energy Commission will send a copy of the Payment Claim Form (CEC 1038 R2) to the purchaser and designated payee to confirm the amount of funding reserved on the purchaser's behalf. In most cases, the parties entering into the purchase agreement and installation contract (purchaser and seller and/or installer) must read, sign, and date the Payment Claim Form. If the purchaser alone applied for and is to receive the rebate, only the purchaser need sign the Payment Claim Form. This form must be mailed, as original signatures are required for payment.

Any changes to the information provided on the previously submitted Reservation Request Form (CEC 1038 R1) must be noted in the space provided. Changes from the original application, such as changes in equipment, installer or seller must be identified on the Payment Claim Form (CEC 1038 R2). If additional space is required to note such changes, additional pages may be attached to the form. Changes in equipment from the original application or other changes may affect the eligibility and amount of the rebate.

2. Documentation Confirming Final Payment and System Installation

Applicants must submit final project cost documentation clearly identifying what work was done and how much was paid. Cost documentation must show proof of the amount paid and provide sufficient information to clearly identify the equipment and labor purchased. To meet this requirement, the applicant must submit final invoices or a copy of the final contract. The actual amount paid by the purchaser to the seller and/or installer must be clearly indicated. Also, the invoice/contract should clearly indicate the extent to which the Energy Commission's rebate lowered the cost of the system to the purchaser.

The Energy Commission reserves the right to require that copies of cancelled checks, credit card statements, or equivalent documentation be submitted to substantiate payment of the claimed eligible project cost. Applicants must explain the difference if the final price paid by the applicant is different from that price shown on any contract or invoice previously submitted with a Reservation Request Form (CEC 1038 R1).

3. Building Permit and Final Inspection Sign Off

Submit a copy of the initial building permit and the final inspection signoff upon completion of system installation. The name and address on the building permit must match that shown on the Payment Claim Form (CEC 1038 R2).

4. Five-year Warranty

A standard full five-year warranty form (CEC 1038 R3) must be completed and signed by the appropriate party(ies) and given to the purchaser. Submit a copy of this form with your payment request.

For owner installed systems, submit copies of the manufacturer's 5 year warranties for the inverters and generating equipment.

5. System Interconnection with Utility Grid

The applicant must demonstrate that the system is interconnected to the utility distribution grid and that the utility has approved this interconnection for the system's operation at the site of installation. The applicant must demonstrate this by submitting a letter of authorization to interconnect the system from the utility. The rebate payment may be made prior to obtaining the utility letter of authorization if the applicant submits written authorization to the Energy Commission which gives permission to the applicant's utility to exchange applicant information with the Energy Commission to verify compliance with the interconnection requirements. Forms for this purpose may be obtained directly from the applicant's utility. The authorization may be provided by submitting a completed California Public Utilities Commission form "Authorization to Receive Customer Information or Act on a Customer's Behalf." A customer's authorization must remain in effect for the lesser of three years or the term of the ERP.

If the site of installation was a new facility without electrical service when the reservation request was submitted, a copy of the applicant's utility statement or other proof from the utility must be submitted before payment may be made. Other proof may include written confirmation from the utility that a meter has been set at the site and verifying that the site had electrical service prior to the reservation expiration date.

In addition, applicants must authorize the Energy Commission to exchange applicant information with the applicant's utility if necessary to verify compliance with these interconnection and program requirements. By applying for a reservation, applicants authorize the Energy Commission during the term of the ERP to exchange applicant information with the applicant's utility in order to verify compliance with the interconnection and program requirements.

B. Submitting a Payment Claim

Once a system is installed, grid connected⁷, and operating satisfactorily, the following documents must be submitted to claim a rebate payment:

- Rebate Payment Claim Form (CEC 1038 R2)
- Documentation confirming final payment and system installation
- Initial building permit and final signoff
- Five-year warranty for the system (CEC 1038 R3 form)
- A copy of the utility bill if the installation location was a new facility without electrical service when the reservation request was submitted (or other proof from the electric utility, such as evidence that a meter has been set at the site, that verifies the site had electrical service prior to the reservation expiration date).

Mail the complete Payment Claim Form (CEC 1038 R2) and supporting documentation to the Energy Commission at the address shown below on or before the expiration date specified on the Payment Claim Form. The Payment Claim Form cannot be submitted by telefax because original signatures are required on the Payment Claim Form to process rebate payments. The request for payment must be received or postmarked on or before the reservation expiration date. Be sure to keep a copy of the Payment Claim Form together with the purchase agreement, contract, receipts, evidence of payment, building permit, and final signoff, etc. for your records. If the payment is being assigned to a third party, an original signature of the payee is also required on the CEC 1038 R5 form.

Payment claims should not be submitted unless a complete application is provided and all eligibility requirements are met. The application must document that utility service existed at the site and that the system was signed off by the building department prior to the expiration date, otherwise the project clearly does not meet the conditions of the reservation and the applicant will be required to reapply under the program rules and funding availability in effect at the time of reapplication.

If the payment request application is incomplete, the Energy Commission may request the provision of all missing or unclear information from the appropriate party (purchaser, equipment seller, or installer) to process the request. In that event, the Energy Commission will allow the submitting party up to 60 days to respond with all the required information to approve payment.

The request for payment will be denied if all the requested information is not received within the time period specified by the Energy Commission. A claim that is not received by the expiration date or otherwise not eligible will be returned to the purchaser along with a written notice stating the reasons that the claim was rejected. If the claim is made after the

18

⁷ Systems must be permanently interconnected to the electrical distribution grid of the utility serving the customer's electrical load unless the system uses a Commission approved device on the customer side of the meter instead of an inverter.

expiration date or is otherwise ineligible, the purchaser will have to reapply and will be subject to the eligibility requirements, incentives, and funding available at that time.

All required forms and supporting documentation required to claim payment shall be mailed to:

ERP, Payment Claim California Energy Commission 1516 9th Street, MS-45. Sacramento, CA 95814- 5512

The Energy Commission intends to make incentive payments within 6 to 8 weeks of receipt of a complete rebate payment claim application. Payment will be made to the seller or purchaser, as designated on the Reservation Request Form (CEC-1038 R1) unless the payee has assigned the payment to a third party, and will be mailed to the address provided by the recipient on the Payee Data Record (Form STD-204), previously submitted to the Energy Commission.

C. Claiming a Rebate Payment Without a Prior Reservation

If a rebate payment is claimed for a system not previously approved for a rebate reservation, the Payment Claim Form (CEC 1038 R2) and required documentation must also be accompanied by a completed and signed Reservation Request Form (CEC 1038 R1). The submittal should meet all requirements needed for approval and payment as described herein. Applicants without a prior reservation should be aware that program eligibility requirements and rebate levels may have changed since installation and may require the applicant to make significant and costly changes to the system in order for it to qualify for an incentive.

D. Assignment of Rebate Payment

The designated payee of the rebate payment may assign his or her right to receive the payment to a third party by completing the Reservation Payment Assignment Form (CEC-1038 R5) and submitting it with either their reservation request or their Payment Claim Form (CEC 1038 R2). The Reservation Payment Assignment Form may not be submitted by telefax as original signatures are required to process the assignment. Payees that assign their rebate payment to a third party will still be reported as the recipients of said payments for tax purposes.

VI – Modifications or Changes to Reservations

A. Can My Installed System Be Different Than My Reservation?

The Energy Commission expects a system to be installed as described in the Reservation Request Form (CEC 1038 R1), but recognizes that minor changes may result during installation and that time extensions or other substantive changes may be necessary in extraordinary circumstances. See Appendix 5 for more information on major changes. Minor changes do not require prior approval, but must be documented on the Payment Claim Form (CEC 1038 R2) and may change the rebate amount. Minor changes include decreases in the system size (while staying within the Energy Commission size categories), changes in qualifying retailers and/or installers, or changes from one make or model of a certified component to another. Any changed rebate amount that occurs is subject to availability of funding.

1. How Do Changes Affect the Rebate Amount

Modifications to an approved reservation may be made prior to a payment claim. If any change results in the installed system differing in its rated electrical output from the system originally specified in the Reservation Request Form (CEC 1038 R1), a new rebate payment amount will be calculated. If the installed system is smaller in output than originally specified in the Reservation Request Form, the new rebate amount will be determined using the same rebate level that was used to calculate the original rebate amount. For example, if a system, which was granted a rebate reservation at the self-install rebate level, is reduced in size, the rebate reservation will be recalculated at the self-install rebate level in effect at the time the reservation was first issued. This is true even if the smaller system size was installed professionally.

If the installed system is larger than that originally specified in the reservation request, the Energy Commission will recalculate the rebate based on the current program parameters for the entire proposed project at the time a modification request (with supporting documentation) is filed. The amount reserved will be increased if the incentive calculated for the entire proposed project is higher than that already reserved. The Energy Commission may not be able to increase the rebate amount reserved if no additional funds are available; or if the project size is increased to 30 kW or greater, or if the increase is not sufficient to result in a higher rebate calculation. See Appendix 5 for additions to systems older than 18 months.

VII - Eligible System Costs

In most cases, the system cost will not affect the eligible incentive amount, but is needed for a variety of reasons. First, the Energy Commission is interested in having information about system prices to evaluate future rebate levels and monitor whether the program goals are being achieved. Second, total costs are needed to assure the incentive does not exceed the net purchase price of the system.

A. What System Costs Are Eligible?

In addition to the cost of permits issued by local building departments or appropriate government entities to install the electricity generation system and sales tax, the program covers only the following specific eligible components and equipment:

Photovoltaics: The photovoltaic cells, modules, mounting or tracking structures, wire, inverters, foundation (for free-standing systems), simple kWh system performance meters, and utility required interconnection equipment.

Small Wind: The wind turbine, tower, wire, inverter, foundation (for free standing systems), simple kWh system performance meters, and utility required interconnection equipment.

Solar Thermal: The concentrating and collecting apparatus, tracking and mounting structures, wiring, thermal engines or devices for the conversion of heat to mechanical energy, generator, inverter, support structure and foundation (for free-standing systems), simple kWh system performance meters, and utility required interconnection equipment.

Fuel Cells: The renewable gas pre-treatment equipment (but not the gas collection or production equipment), fuel processor, cell stacks, inverter and power conditioning equipment, cooling equipment, foundation (for free-standing systems), simple kWh system performance meters, and utility required interconnection equipment.

B. What Costs Are Not Eligible?

Many of the system costs included in the sales or installation contracts may not be eligible. The purchaser or retailer must provide details to separate these costs from eligible costs. The cost of any equipment used to store the electricity produced is not eligible (e.g., batteries, charge controllers, battery cables, etc.). The cost of tools is not eligible.

Other ineligible costs include items that are not typically required for a given eligible system installation. These ineligible costs include, but are not limited to, tree trimming, fencing, reroofing, roof repairs or reinforcement, landscaping, relocating vent pipes, and moving HVAC or other equipment. Additionally, financing fees or costs incurred by either the customer or retailer are ineligible.

VIII - Special Funding

This chapter describes special funding and the corresponding eligibility requirements for applicants who install systems on affordable housing or on or charter schools.

A. Special Funding for Affordable Housing Projects

Pursuant to Assembly Bill 58 [AB 58, Keeley, (Statutes Of 2002, Chapter 836)], the Energy Commission has established an additional rebate for systems installed on affordable housing projects. Affordable housing projects may qualify for an extra 25 percent rebate above the standard rebate level, not to exceed 75 percent of the system cost, if the following additional criteria are met:

- The affordable housing project was undertaken pursuant to section 50052.5, 50053. or 50199.4 of the Health and Safety Code. Provide a copy of the regulatory agreement for the property or the property title that expressly limits residency to extremely low, very low, lower or moderate income persons as defined by the Health and Safety Code section 50052.5, 50053. or 50199.4, or regulations adopted by the California Department of Housing and Community Development.
- Each residential unit (apartments, multifamily homes, etc.) has an individual electric utility meter. Provide documentation from the electric utility confirming service and meter number.
- The housing project is more than 10 percent more energy efficient than the current standards specified in Title 24 of the California Code of Regulations, standards or has already taken measures to reduce the energy use of the building or unit by 10 percent as calculated per Title 24 compliance models (usually C02 model runs).

B. Special Funding for Public and Charter Schools

Pursuant to Interagency Agreement No. R500-02-006, amended February 4, 2004, the Energy Commission and the California Power Authority have established the Solar Schools Program to provide a higher level of funding for public and charter schools to encourage the installation of photovoltaic generating systems at more school sites. In 2002, the Energy Commission was unable to secure budget authority from the Department of Finance to expend the funds from the Attorney General's Alternative Energy Retrofit Account (AGAERA). The additional funds for the Solar Schools Program total \$2.25 million and are now available from the AGAERA. Fifteen schools were granted preliminary reservations in 2002 that could not be funded under the Solar Schools Program. These

districts will be given preference until June 21, 2004 to reapply to this program for the sites for which they originally applied.

Installations of photovoltaic systems at school sites totaling less than 30 kilowatts in size per school district may qualify for additional funding from the AGAERA equal to the standard rebate offered to other ERP applicants for photovoltaic systems. If the standard rebate available is \$3.20 per watt, the rebate available for an eligible public or charter school would be \$6.40 per watt. However, the total funding incentive (Energy Commission plus AGAERA funds) may not exceed the total installed system cost. To further assist schools, any costs above the total rebate incentive may be financed through a loan from the Energy Commission's Energy Efficiency Financing Program or through a loan from another public agency. Such loans will not be considered in adjusting the ERP rebate level available for the school. Schools approved for the additional incentives will be given reservations of 18 months total, including any preliminary reservation period.

1. Requirements for the Solar Schools Program

To be eligible, schools must show they meet all eligibility requirements for the standard rebate and demonstrate they meet the following additional criteria:

- The public or charter school provides, or will provide, instruction for any grade between kindergarten through 12th grade
- The school has already installed high efficiency fluorescent lighting (T8 lamps and electronic ballasts) in at least 80% of classrooms or has implemented other energy efficient measures with equivalent or greater energy savings as determined by the Energy Commission
- The school agrees to establish a curriculum tie-in plan to educate students on the benefits of solar energy and energy conservation

Schools that do not meet the requirements of the Solar Schools Program may still qualify for the standard rebate offered. Schools with an existing standard rebate reservation may reapply for the higher rebate if the system has not been completed. Schools that were granted preliminary reservations in 2002 may reapply for the higher rebate even if the system has been completed. To reapply, submit a completed Solar Schools Reservation Request Form and a new CEC 1038-R1 form.

2. How to Apply to the Solar Schools Program

To obtain the full reservation for the additional rebate incentive, participating school districts must submit a complete standard application (CEC 1038-R1 and supporting documents) and provide the following additional information for each school where a system is planned:

Solar Schools Reservation Request Form - Complete the Solar Schools Reservation Request Form identifying the planned sites for installation.

Proof of Energy Efficiency - Check the box on the Solar Schools Reservation Request Form indicating that the energy efficient lighting measures already installed comply with the high efficiency lighting requirement (T8 lamps and electronic ballasts) or provide additional documentation to show that other energy efficient measures with equivalent or greater energy savings have been installed. For further information on energy efficiency, please contact the Energy Commission at (916) 654-3838.

School Board Resolution – Provide a signed board resolution clearly indicating all of the following:

- Intent to purchase and install an eligible photovoltaic system at the specified site(s)
- Support to operate and maintain the system for its useful life
- School commitment to establish a curriculum tie-in plan to educate students on the benefits of solar energy and energy conservation

The Solar Schools Reservation Request Form is included in Appendix A of this guidebook. The form and attachments may be faxed to (916) 653-2543 or be mailed to:

ERP Schools California Energy Commission 1516 9th Street, MS-45 Sacramento, CA 95814-5512

Preliminary Reservation Option

If the funding is not entirely reserved by applicants meeting all of the above criteria, a preliminary reservation may be given to school districts that are initially able to provide all of the following information, but have not yet signed a system purchase and installation agreement(s):

- Solar Schools Reservation Request Form
- Proof of meeting the energy efficiency criteria
- Board resolution
- Electric utility bill for each school

The preliminary reservation would allow the school district six months to solicit bids and contract for a system purchase and to complete their application. This six month period is available to any preliminary reservation issued on or after May 19, 2004.

To secure the full reservation for a participating school, the Reservation Request Form (CEC 1038-R1) must be submitted before expiration of the preliminary reservation. The required attachment to the completed CEC 1038 R1 form is a copy of the agreement(s) to purchase and install the specified system. Preference will be given to those applicants that are able to satisfy the full reservation criteria and do not need preliminary reservations.

Schools that are able to convert their preliminary reservations into full reservations will be issued full reservations for a period not to exceed the difference between 18 months and the length of their preliminary reservation. For example, schools which are able to convert their preliminary reservations to full reservations within five months, will be issued full reservations for a period of 13 months from the date of conversion (the date the complete application for the full reservation is submitted.)

Payment Requests and Forms

To request the rebate payment once the system is installed, the applicant must submit the Payment Claim Form (CEC 1038-R2) with the same attachments required for any other participant in the Emerging Renewables Program.

Blank forms for requesting a reservation or filing for payment can be obtained by calling the Energy Commission call center at 1-800-555-7794 or from the Energy Commission web site at:

[http://www.consumerenergycenter.org/erprebate/index.html]

No funds will be reserved until all the information and documentation required for the preliminary reservation request and/or standard reservation request is received by the Energy Commission. Applications will not be processed if they are not complete and legible.

Appendix 1 - Forms and Worksheets

CEC 1038 R1- Reservation Request Form (All technologies)

STD 204 - Payee Data Record

CEC 1038 R2 - Payment Claim Form

CEC 1038 R3 - Minimum Warranty Form

CEC 1038 R4 - Equipment Seller Information Form

CEC 1038 R5 - Reservation Payment Assignment Form

CEC 1038 R6 - Time Extension Request Form

Solar Schools Reservation Request Form

R1

RESERVATION REQUEST FORM EMERGING RENEWABLES PROGRAM

o Modify Existing Record #

- o Affordable Housing Project
- o New Construction
- o School



For details on this program please see the Guidebook for the Renewable Energy Program at:

www.consumerenergycenter.org/ or by calling **(800) 555-7794.** Please submit only by mail to: California Energy Commission ERP, Reservation Request 1516 Ninth Street (MS-45) Sacramento, CA 95814-5512

1. Purchaser									
			Physical Address of System: Ma			Mailin	ng Address:		
Phone: () Fax: () Primary contact for questions/correspondence: Payee ID: (if applicable) O Purchaser O Seller			Utility: o PG&E o SCE o SDG&E o BVE						
2. Seller (seller of ge	enerating eq	uipment)							
Company: Address:			Phone: () Fax: ()						
Contact:	<i>(:t</i>					- "			
Payee ID:	(іт аррі	licable)				Email:			
o Hired Contractor o Self or Other (qu				Ехр	ires:	Phone			
Company Name:			Address:			——— Fax: (— Fax: ()		
						Email:			
4. System Equipme	nt								
Inverter Manufac		Model		Quantity	Rating (W)	Efficiency (%) Est	timated Energ	gy Production:kWh/year
								Methodolog	av Used:
Performance Meter M	anuf.	Model		Quantity	Inverter include	es eligible mete	er?		
Manufacture	er	Model		Quantity	Rating (W ptc)	Inverter Eff.	(%) Reb	ate Level	Requested \$
PV				x	x	x		\$/W = _	
Wind				x	x	>	·	\$/W =	
Other				x	x	>	·	\$/W =	
5. Declaration Unde	r Penalty c	of Perjury				6. Incentive	Requeste	d	
The undersigned parti						System Cost (before rebate) \$			
form is true and corre			-	-	•	Other Incentives: \$			
declare under penalty		, .		-		Source:			
purchase the generati						Rated Output (Watts)			
is attached, 2) all equipment is new and unused and has been purchased within the last									
18 months, 3) the generating system is intended primarily to offset part or all of the purchaser's electrical needs at the site of installation, 4) the purchaser intends to									
						Total Request \$			
lease agreement and 5) the system described above will be interconnected with the					Pay Rebate to:				
electric utility identified. The undersigned purchaser authorizes the Energy Commission					l dy Robatt	C (O	a i dionasi	ci 🗖 Ociici	
during the term of the ERP to exchange purchaser information on this form with the									
purchaser's utility to verify compliance with the ERP requirements.									
	ırchaser		Dulmt N		Seller		Is paymen	it to be assi	gned to
Print Name:			Print Name:				another party? ☐ Yes If yes, attach the CEC 1038 R5 form		
Signature:		Signature:							
Date: Date:					_		nal signatu		

IMPORTANT: Attach a signed copy of the purchase agreement(s) and labor contract(s)

A copy of a monthly electricity statement showing system address, purchaser name, and energy usage Payee data record (STD-204) for the recipient of the rebate

INSTRUCTIONS FOR THE RESERVATION REQUEST FORM (CEC 1038 R1)

Title Box: Indicate if the request is to modify an existing reservation application, is for affordable housing, new construction or a school.

Section 1. Purchaser

Provide the purchaser name, complete installation address, mailing address (if different from the installation address), phone and fax number and email address. If the physical address of the installation is the retailer's office or personal property, list the supplier of the PV modules or wind turbine as the seller. Check the box indicating whether the purchaser, seller or both are to be the primary contact for questions. Check the box indicating the name of the electric utility serving the installation location.

Section 2. Seller

Provide the seller company name and a contact person name, complete address, phone and fax number and email address.

Section 3. Installer

Check the appropriate box for whether the system is to be installed by a contractor (include contractors license class, number and expiration date) or other, such as "owner install." If installed by a contractor, provide the contractor's company name and contact person name, complete address and email address. All contractors must have an active "A", "B" "C-10" or "C-46" license. A standard five year warranty form (Form CEC 1038-R3) must be submitted later when payment is requested for systems installed by a contractor.

Section 4. System Equipment

Provide the name of the inverter manufacturer, the inverter model, the number of inverters, the power rating in watts, the efficiency at % load and indicate whether the inverter includes an eligible performance (kWh) meter. Eligible inverters and rating information is located on the Commission's website www.consumerenergycenter.org/erprebate. Identify the performance (kWh) meter manufacturer, complete model number and the number of meters. Check the box to indicate whether the inverter includes an eligible meter. Indicate the calculation method used to determine the estimated energy production value in kWh. For photovoltaic systems for example, Clean Power Estimator or PV installers guide methodology. Identify the manufacturer name of the generating equipment and the complete model number, the quantity of generating equipment and the rated output (for PV use the PTC rating). Calculate and include the system output by multiplying the inverter efficiency at ¾ load by the quantity of equipment used, by the rating in watts (PTC rating for PV). If the inverter rated output is less than the system output (kW), the inverter rated output will be used to calculate the rebate. Where more than type of inverter is used the weighted average inverter efficiency will be used.

Section 5. Self Explanatory. Please note that the purchaser signature now authorizes the Energy Commission to exchange purchaser information with the utility in order to verify compliance with the Emerging Renewables Program (ERP) requirements.

Section 6. Incentive Requested

Identify incentives expected or received from other sources. Provide the system installed cost (before the ERP rebate). The ERP requires that incentives from other sources be accounted for before determining the rebate from the ERP. Fifty percent of any incentive received or expected from a utility incentive program, a State of California or federal government sponsored incentive program, other than tax credits, must be subtracted from the ERP rebate amount requested. The "Total Request" should therefore be based on the ERP rebate level in place at the time the application is received by the Commission and the system cost after subtracting other incentives. If an incentive from the ERP was received previously for this site, include the incentive amount and, if known, the reservation number, for the prior application. Check the box indicating whether the incentive is to be paid to the purchaser or seller.

Signatures:

The purchaser must always print and sign his or her name on the form. If the seller is designated as the payee, the seller must also sign his or her name on the form. Please indicate if the rebate payment is to be assigned to a third party. A third party is an entity other than the purchaser or seller. If yes, please fill in the name and address in the space provided and attach the original of the assignment form (CEC 1038 R5). The assignment form must contain original signatures. Payees that assign the rebate payment to a third party will still be reported as the recipient of the payment(s) for tax purposes.

Attachments: Please attach the documentation necessary to provide the following:

- 1. evidence of an agreement(s) to purchase and install the system
- 2. evidence of electrical service at the installation location
- 3.. the Payee Data Record, Form STD-204, or include the Payee ID number if the STD 204 is already on file and the payee has previously received payment from the Energy Commission.
- 4. a copy of the building permit if this is new construction

Evidence of an agreement to purchase and install can consist of a signed copy of the system or equipment purchase agreement(s) and a signed installation contract(s), or proof of 10% down payment of the major equipment price (through invoices or receipts) and an installation contract. If the system will be located at a new residence please include verification, such as a letter from the utility or a statement indicating the utility name and address at which the system will be interconnected or a signed statement from the seller or purchaser identifying the utility provider and the physical address where the installation is to occur.

Submit your request only by mail to:

ERP, Reservation Request California Energy Commission 1516 9th Street, MS-45 Sacramento, CA 95814-5512

STATE OF CALIFORNIA-DEPARTMENT OF FINANCE

PAYEE DATA RECORD

(Required when receiving payment from the State of California in lieu of IRS W-9) STD. 204 (Rev. 6-2003)

1	INSTRUCTIONS: Complete all information on this form. Sign, date, and return to the State agency (department/office) address shown at the bottom of this page. Prompt return of this fully completed form will prevent delays when processing payments. Information provided in this form will be used by State agencies to prepare Information Returns (1099). See reverse side for more information and Privacy Statement.					
	NOTE: Governmental entities, federal, State, and local (including	ng school districts), a	ire not required to submit this form			
	PAYEE'S LEGAL BUSINESS NAME (Type or Print)					
2	COLE PROPRIETOR FILTER NAME AS SUCKED ON COLUMN	(E. (M)	E MAII ADDDEGG			
	SOLE PROPRIETOR - ENTER NAME AS SHOWN ON SSN (L	ast, First, M.I.)	E-MAIL ADDRESS			
	MAILING ADDRESS	BUSINESS ADDR	RESS			
	CITY, STATE, ZIP CODE	CITY, STATE, ZIF	CODE			
3	ENTER FEDERAL EMPLOYER IDENTIFICATION NUMBER PARTNERSHIP CORPORATION:		-	NOTE: Payment will not be processed		
PAYEE		. (e.g., dentistry, psycho .g., attorney services)	otherapy, chiropractic, etc.)	without an accompanying		
ENTITY TYPE	ESTATE OR TRUST U LEGAL (e			taxpayer I.D.		
=	☐ ALL OTH			number.		
CHECK ONE BOX ONLY	INDIVIDUAL OR SOLE PROPRIETOR ENTER SOCIAL SECURITY NUMBER: (SSN required by	authority of California F	Revenue and Tax Code Section 18646)			
		•	·	•		
4	California resident - Qualified to do business in Ca	ılifornia or maintair	ns a permanent place of busine	ess in California.		
PAYEE RESIDENCY STATUS	 California nonresident (see reverse side) - Payments to nonresidents for services may be subject to State income tax withholding. No services performed in California. Copy of Franchise Tax Board waiver of State withholding attached. 					
5	I hereby certify under penalty of perjury that the information provided on this document is true and correct. Should my residency status change, I will promptly notify the State agency below.					
	AUTHORIZED PAYEE REPRESENTATIVE'S NAME (Type or F	Print)	TITLE			
	SIGNATURE	DATE	TELEPHONE			
	Please return completed form to:		\			
6	•					
6	Department/Office:					
	Unit/Section:					
	Mailing Address:					
	City/State/Zip:					
	Telephone: () Fax: ()					
	E-mail Address:					

PAYEE DATA RECORD

STD. 204 (Rev. 6-2003) (REVERSE)

Requirement to Complete Payee Data Record, STD. 204

A completed Payee Data Record, STD. 204, is required for payments to all non-governmental entities and will be kept on file at each State agency. Since each State agency with which you do business must have a separate STD. 204 on file, it is possible for a payee to receive this form from various State agencies.

Payees who do not wish to complete the STD. 204 may elect to not do business with the State. If the payee does not complete the STD. 204 and the required payee data is not otherwise provided, payment may be reduced for federal backup withholding and nonresident State income tax withholding. Amounts reported on Information Returns (1099) are in accordance with the Internal Revenue Code and the California Revenue and Taxation Code.

- Enter the payee's legal business name. Sole proprietorships must also include the owner's full name. An individual must list his/her full name. The mailing address should be the address at which the pavee chooses to receive correspondence. Do not enter payment address or lock box information here.
- 3 Check the box that corresponds to the payee business type. Check only one box. Corporations must check the box that identifies the type of corporation. The State of California requires that all parties entering into business transactions that may lead to payment(s) from the State provide their Taxpayer Identification Number (TIN). The TIN is required by the California Revenue and Taxation Code Section 18646 to facilitate tax compliance enforcement activities and the preparation of Form 1099 and other information returns as required by the Internal Revenue Code Section 6109(a).

The TIN for individuals and sole proprietorships is the Social Security Number (SSN). Only partnerships, estates, trusts, and corporations will enter their Federal Employer Identification Number (FEIN).

Are you a California resident or nonresident?

A corporation will be defined as a "resident" if it has a permanent place of business in California or is qualified through the Secretary of State to do business in California.

A partnership is considered a resident partnership if it has a permanent place of business in California. An estate is a resident if the decedent was a California resident at time of death. A trust is a resident if at least one trustee is a California resident.

For individuals and sole proprietors, the term "resident" includes every individual who is in California for other than a temporary or transitory purpose and any individual domiciled in California who is absent for a temporary or transitory purpose. Generally, an individual who comes to California for a purpose that will extend over a long or indefinite period will be considered a resident. However, an individual who comes to perform a particular contract of short duration will be considered a nonresident.

Payments to all nonresidents may be subject to withholding. Nonresident payees performing services in California or receiving rent, lease, or royalty payments from property (real or personal) located in California will have 7% of their total payments withheld for State income taxes. However, no withholding is required if total payments to the payee are \$1.500 or less for the calendar year.

For information on Nonresident Withholding, contact the Franchise Tax Board at the numbers listed below:

Withholding Services and Compliance Section: 1-888-792-4900 E-mail address: wscs.gen@ftb.ca.gov For hearing impaired with TDD, call: 1-800-822-6268 Website: www.ftb.ca.gov

- 5 Provide the name, title, signature, and telephone number of the individual completing this form. Provide the date the form was completed.
- This section must be completed by the State agency requesting the STD. 204.

Privacy Statement

Section 7(b) of the Privacy Act of 1974 (Public Law 93-579) requires that any federal, State, or local governmental agency, which requests an individual to disclose their social security account number, shall inform that individual whether that disclosure is mandatory or voluntary, by which statutory or other authority such number is solicited, and what uses will be made of it.

It is mandatory to furnish the information requested. Federal law requires that payment for which the requested information is not provided is subject to federal backup withholding and State law imposes noncompliance penalties of up to \$20,000.

You have the right to access records containing your personal information, such as your SSN. To exercise that right, please contact the business services unit or the accounts payable unit of the State agency(ies) with which you transact that business.

All questions should be referred to the requesting State agency listed on the bottom front of this form.

REBATE PAYMENT CLAIM FORM EMERGING RENEWABLES PROGRAM



RENEWABLE ENERGY PROGRAM CALIFORNIA ENERGY COMMISSION	California Energy Commission ERP, Payment Claim 1516 Ninth Street (MS-45) Sacramento, CA 95814-5512		Record Number
[CEC use only]		[CEC use only]	
		Tot.Elig.Cost: \$	Date CFA:
		SRO Watts: Re	ebate @ = \$
1. Confirmation of Reservation Amount			
has been granted a res system. The reservation will expire on (and is expected to produce (The generation system must be completed and the clapostmarked by the expiration date or the reservation installation address and sold to the above.	kWh per year).	The system is being insta The payment will be mad the appropriate documentation	by the deadline. Claims must be
2. System Equipment (Modules, Wind Turbi	ines, Inverters, k	(Wh Meters)	
Number Manufacturer Mode	el 	Total System Price	\$
		Amount paid by custo	mer to date: \$
3. Modifications			
Has any of the information in section 1 or 2 a If yes note the changes before claiming payr	-	Yes No	
The undersigned declare under penalty of perjury that (1) The purchaser will submit to the Energy Commit (2) The electrical generating system described aboon Commission's Emerging Renewables Program (3) The electrical generating system described aboon and has or will be issued utility approval to oper (4) The rated electrical output of the generating system described above. (5) Except as noted above, 'there were no changes specifications, installation location, or price from undersigned. The undersigned purchaser authorizes the Energy C	ssion a copy of the ve and in any attact and has been instact ve and in any attact are the system as stem, the physical I is in the information prommission during the commission during the commission of the com	e utility "letter of authorization to ched documents meets the terrialled and is operating satisfactoriched documents is property into interconnected to the distribut ocation of the system, and the regarding the seller, installer, rovided in the Reservation Recontent of the ERP to exchan	o operate" the system. ms and conditions of the California Energy orily as of the date stated below. erconnected to the utility distribution grid ion grid. e equipment identified were installed as purchaser, generating system quest Form originally submitted by the
the purchaser's utility in order to verify compliance w	rith the ERP require		le neument accioned to
Print Name: Print Name: another part Signature: Signature: If yes, attach the part satisfies the part of			Is payment assigned to another party? ☐ Yes If yes, attach the payment assignment form (CEC 1038 R5) with original signatures.

Also Attach: 1. Initial building permit and final inspection signoff; 2. Final purchase and installation invoice(s) confirming the equipment and amount paid; 3. Five-year warranty (CEC 1038 R3 form); 4. Utility letter of authorization to interconnect the system or the purchaser's authorization form to access utility data, 5. Utility bill or proof of electrical service if new construction

INSTRUCTIONS FOR THE REBATE PAYMENT CLAIM FORM (CEC 1038 R2)

The CEC 1038 R2 form is used to request payment for a completely installed and operational renewable energy system. The form specifies information about the renewable energy system that was to be installed at the time the reservation request was initiated. It also serves as a means of documenting what changes occurred from the time the reservation request was processed until the time the system was installed. The payment claim form must be submitted before the reservation expires.

Section 1. Confirmation of Reservation Amount

Self explanatory.

Section 2. System Equipment Installed

Fill in the equipment information requested including the number of units and the make and complete model number. Enter the total system price.

Section 3. Modifications

Check the "yes" box if changes were made to the system and note any changes in the information from the previously submitted Reservation Request Form. If more space is required to note changes, additional pages may be added to the form. Changes in equipment from the original application may affect its eligibility and the amount of the rebate. If no changes were made, check the "no" box.

Signatures:

The purchaser must always print and sign their name on the form. If the seller is the rebate payee, the seller must also print and sign their name on the form. Enter the date of each signature. Original signatures are required on the form.

Please indicate whether the rebate payment is to be assigned to a third party. A third party is an entity other than the purchaser or seller. If yes, please fill in the name and address in the space provided and attach the original of the assignment form (CEC 1038 R5). The assignment form must contain original signatures. Payees that assign the rebate payment to a third party will still be reported as the recipient of the payment(s) for tax purposes.

Attachments:

Several attachments to the form must also be submitted before the claim will be processed. These include:

- A copy of the building permit and final signoff
- A copy of the final purchase and installation invoices confirming equipment and amount paid
- A copy of the completed and signed CEC 1038 R3 form
- Letter of authorization from the utility to interconnect or purchaser's authorization to access utility data.
- A copy of the utility bill if the installation location was a new facility without electrical service when the reservation request was submitted.

Building Permit and Final Signoff:

The name and address on the building permit must match the installation address on the payment claim form.

Invoices:

The invoices must clearly identify the work that was done and the amount paid. This includes identifying the quantity, make and model numbers of major equipment installed and the labor charge for installation. To meet this requirement you may submit a copy of the final invoice(s) or a copy of the final contract(s) showing a zero balance or the amount paid by the purchaser. The invoice or contract should also indicate the extent to which the Commission's rebate lowered the cost of the system. Copies of bank statements, cancelled checks, or credit card statements may also be requested by Energy Commission staff. The final system price paid by the purchaser should match the price shown on any contract or invoice previously submitted. Any differences must be explained.

Warranty:

Complete and attach the CEC 1038 R3 form.

Letter of authorization from the utility to interconnect the system or purchaser signature of R2 form authorizing CEC to exchange purchaser information with the purchaser's utility. The address in the utility interconnection letter must match the address of the installed system.

Claiming a Rebate Without a Prior Reservation

To claim a rebate without a previously approved reservation, you must also submit a completed and signed Reservation Request Form (CEC 1038 R1).

Submit your request only by mail to:

ERP, Payment Claim California Energy Commission 1516 9th Street, MS-45 Sacramento, CA 95814-5512

Allow at least 6 to 8 weeks from receipt of a complete payment claim application for payment. Payment will be mailed to the retailer or purchaser as indicated on the Reservation Request Form at the address indicated on the Payee Data Record form (STD-204), unless you have assigned payment to a third party.

CEC- 1038 R3 (07-2004)

R3

MINIMUM WARRANTY FORM EMERGING RENEWABLES PROGRAM

This	stem Information s warranty applies to the following kW renewable energy electric generating system scription: atted at:	
Wha	at is Covered	
This	five year warranty is subject to the terms below(check one of the boxes):	
O	<u>All</u> components of the generating system <u>AND</u> the system's installation. Said warrantor shall bear the full cost of diagnosis, repair and replacement of any system or system component, at no cost to the customer. This warranty also covers the generating equipment against breakdown or degradation in electrical output of more than ten percent from the originally rated output (PTC rating for modules, manufacturers rating for wind turbines); or	
0	System's installation only. Said warrantor shall bear the full cost of diagnosis, repair and replacement of any system or system component, exclusive of the manufacturer's coverage. (Copies of five-year warranty certificates for the major system components (i.e., solar modules, wind turbines, etc. and inverter- MUST be provided with this form).	
Ger	neral Terms	
durin	warranty extends to the original purchaser and to any subsequent purchasers or owners at the same location and the warranty period. For the purpose of this warranty, the terms "purchaser", "subsequent owner", and chase" include a lessee, assignee of a lease, and a lease transaction. This warranty is effective from (date of completion of the system installation).	
Exc	clusions	
• I	warranty does not apply to: Damage, malfunction, or degradation of electrical output caused by failure to properly operate or maintain the system in accordance with the printed instructions provided with the system. Damage, malfunction, or degradation of electrical output caused by any repair or replacement using a part or service not provided or authorized in writing by the warrantor. Damage malfunction, or degradation of electrical output resulting from purchaser or third party abuse, accident, alteration, improper use, negligence or vandalism, or from earthquake, fire, flood, or other acts of God.	
Obt	aining Warranty Service	
Nam Com	tact the following warrantor for service or instructions: De: Phone: () Description: Fax: ()	
Signa	ature: Date:	

CEC- 1038 R4 (07-2004)

R4

EQUIPMENT SELLER INFORMATION FORM EMERGING RENEWABLES PROGRAM

Business name:	Phone: ()			
Address:	Fax: ()			
	Email:			
	Web Site:			
Owner or principal contact:				
Business license number:				
Reseller's license number:				
Contractor license number (if applicable):				
Proof of corporate, LLC, LLP or other annual filings, as required with the California Secretary of State (or appropriate state):				
The above information applies solely to the business	iness identified above:			
Print Name:	Title:			
Signature:				
Date:				
Send this completed form by telefax to (916) 653-2543 or by mail to:				
ERP Seller Registration California Energy Commission 1516 9 th Street, MS-45 Sacramento, CA 95814-5512				
Reminder: This form may be submitted at any time that a seller wish be resubmitted annually by March 31 for sellers to remain	nes to become eligible to participate in the ERP. It must n eligible from year to year.			

RESERVATION PAYMENT ASSIGNMENT FORM

EMERGING RENEWABLES PROGRAM				S PROGRAM
E	RENEWABLE ENERGY PROGRAM		Re	cord Number
CALIFORNIA	ENERGY COMMISSION		Payee I	D Number
Reservation	Information Payee Name: Payee Address:			
	Payee Contact: Payee Phone #:			
Assignment	Request			
	y assign the right		or the above no	thorized representative of the ted reservation under the Emerging
	Name: _ Address: _			
	Phone #:			- -
	payment be forwarded to me.	arded to this individu	al or entity at the	e address noted and that proof of
Acknowledge	ement			
complying wittax conseque further unders Commission' Technology N	th the requirement ences associated to stand that I may re s processing of the Market Development	ts of the Emerging F with the reservation evoke this payment a e payment by provident Office. Such noti	Renewables Propayment, despit assignment at a ding written notion ce shall be prov	It that I remain responsible for gram and will remain liable for any te the payment's assignment. In the prior to the Energy ce to the Energy Commission's rided to: Emerging Renewables Sacramento, CA 95814-5512.
Executed on:			Signature: Name: Title:	

This completed form may be submitted with either the Reservation Request Form (CEC 1038 R1) or the Reservation Payment Claim Form (CEC 1038 R2). This form may not be submitted by telefax, as original signatures are needed to process assignment requests.

K	0

TIME EXTENSION REQUEST FORM

KO	EMERGING RENEWABLES PROGRAM		
RENEWABLE ENERGY PROGRAM CALIFORNIA ENERGY COMMISSION	RECORD #Reservation Expiration Date: Date of Request:		
TECHNOLOGY PV Wind Other Reserved System Size kW Rebate reserved at: (\$/W) Mail Request to: ERP Extension Requests California Energy Commission 1516 9th Street, MS-45 Sacramento, CA 95814	Person Submitting Request Name: Company: Mailing Street Address: City State Zip Daytime phone #: () Fax # if available: () E-mail: Are you?: Describe circumstances that were beyond your control		

Solar Schools Reservation Request Form



The Emerging Renewables Program guidebook is available at www.consumerenergycenter.org/erprebate
or by calling the California Energy Commission's Call
Center at 1-800-555-7794

Completed forms must be mailed to:

ERP Schools

California Energy

California Energy

1516 9th Street, M

ERP Schools
California Energy Commission
1516 9th Street, MS-45
Sacramento, CA 95814-5512

Payee Designation:	3. Utility Provider
Reserve rebate for: X School District	Electric Utility Provider:
1. School District	□ SDG&E
District Name: Contact Person:	4. Program Information
Mailing Address:	How did you hear about our program? Have you previously applied for funding rebates from the ERP? ☐ yes ☐ no If yes, reservation #
Business: () Fax: () Email:	5.Statement of energy efficient measures
2. Participating Schools School Name:	For each of the participating schools identified on this form check the appropriate box:
Address:	At least 80% of the classrooms use high efficiency fluorescent lighting (T8 lamps and electronic ballasts).
Business: () Fax: () Email:	Other energy efficient measures with equivalent or greater energy savings to Item 1 (as determined by the Commission) are in use (documentation attached).
Estimated size of photovoltaic systemWatts.	6. Incentive Requested
School Name:	Sum of Total Watts
Address:	Total Incentive Requested \$
Business: () Fax: () Email: Estimated size of photovoltaic system: Watts.	☐ Full reservation request (CEC 1038 R1 and supporting documentation for each site attached) or: ☐ Preliminary 6 month reservation request
School Name:	Tromminary of Honar reservation request
Address:	NOTE: Sum of all new systems installed in school district may not exceed 30 kW.
Business: () Fax: () Email: Estimated size of photovoltaic system:Watts.	7. Information for Additional Schools □ See attached for information on other schools submitted with this application (name, address, phone, estimated size of system, signature of school official).
Declaration: The undersigned declare under penalty of perjury that 1) the ir knowledge, 2) the above described generating system is intended primarily to installation, 3) the site of installation is located within service territory of an element of the control of the contro	to offset part or all of the school's electrical needs at the site of
School District representative	c CEC Review
Print Name	
Signature	
Date	

IMPORTANT: Attach the following minimum documentation: (1) a signed copy of the board resolution(s) indicating support for the solar project and intent to purchase a photovoltaic system; (2) a copy of a monthly electricity statement; (3) evidence that energy efficient measures equivalent to the use of high efficiency fluorescent lighting in 80 percent of the school's classrooms. This form will not be processed without the required attachments.

Appendix 2 - Tips for Consumers

This appendix provides some basic guidelines for those who are not familiar with renewable energy systems and may be interested in learning more. The Energy Commission has a variety of sources of additional information about choosing a renewable energy system, finding retailers or estimating a system's energy output. This information can be obtained by calling (800) 555-7794 or visiting the Energy Commission's website at [www.consumerenergycenter.org].

A. Choosing a Contractor

Make sure you hire a contractor licensed by the Contractors State License Board. State law specifies that any job that costs \$500 or more (labor and materials) requires the services of a licensed contractor. As with any large purchase decision, the Energy Commission recommends that you obtain at least 2 or 3 bids before selecting an installer or agreeing to purchase a renewable energy system. Your final selection should be based on various factors including company reputation, warranty service, and installed system price. The Contractors State License Board [www.cslb.ca.gov] provides helpful consumer information, has a process to address complaints against contractors, and maintains information about the status of contractor licenses. The Energy Commission recommends that you check the status of the installer's contractor license for your own protection.

B. Choosing a Retailer

The Energy Commission maintains a list of renewable energy system retailers to make it easier to find products in your area. The list is available by contacting the Energy Commission or visiting its web page.

C. How Much Energy Does a System Produce?

The annual amount of energy from an eligible renewable energy system can be estimated and in most cases can be guaranteed by the system retailer or installer. For photovoltaic systems, the annual amount of sunlight energy (insolation) at a given location in California is predictable and typically does not vary more than 5 percent from year to year; however, the annual energy produced by a specific solar system is influenced by many factors. These factors include the orientation (tilt and direction) of the system, wire length and size, shading, module output mismatch, inverter efficiency, module cleanliness, and other factors. A qualified solar system installer should be able to evaluate these factors and estimate an average energy output in monthly or annual kilowatt hours (kWh) for a given system at a specific location. Similarly, the annual amount of wind energy at a given location can be estimated, but is somewhat difficult to predict accurately without sufficient

site wind speed data. It is important to note that wind turbines are rated at a wind speed of 28 miles per hour and some wind turbines do not produce any energy until the wind speed exceeds 12 miles per hour.

Battery backup systems are an option when purchasing a solar or wind energy system and have the advantage of providing power during a utility outage. However, adding battery back-up significantly increases the cost of the generating system, requires additional maintenance, and reduces the useful energy output of the system by about 10 to 20 percent compared to a similar system without batteries.

Be sure to compare the energy output that contractors prepare before choosing a contractor. The energy output from a system is a much better indicator of the system performance than is the systems rated output. Also, be sure to verify that your system has an easy to read meter installed that measures the energy produced in kilowatt hours. A meter is required by the ERP so that you will be able to determine if your system is operating properly. The utility meter only provides the net energy used at your home but does not tell you how much energy your system produces.

You may wish to consider purchasing a pre-designed packaged system to reduce the chance of safety or performance problems with mismatched equipment. Of course, all systems are not the same and may not suit your particular situation. Also, be sure that your system warranty clearly identifies the responsible party for repairing your system in the event of a malfunction or break down. Although you may be able to obtain lower prices by purchasing system components and equipment separately, keep in mind that the money you save may be more than offset by increased installation costs and lower energy output because of mismatched equipment. This, in turn, could affect your warranty coverage.

System prices vary depending on the technology used, equipment type, local labor rates, site conditions, and other factors. The following table lists ranges of system prices and annual energy production that are typical for many photovoltaic and wind energy system installations.

Table 2 - Typical Photovoltaic and Wind Energy System
Prices and Energy Production

Technology Type	Typical Energy Production (kWh/year)	Typical Installed System Prices ¹
Photovoltaic Systems ²		
1 kW	1,200 to 1,400	\$7,000-12,000
2 kW	2,410 to 2,810	\$12,000-20,000
10 kW	12,050 to 14,050	\$60,000-90,000
Wind Energy Systems ³		
3 kW	4,990 to 8,500	\$12,000-18,000
10 kW	8,400 to 16,440	\$30,000-50,000

- 1. Price examples are for 2002. The incentives will decrease to promote similar reduction in price.
- Manufacturer ratings at standard test conditions. PV calculations based on (STC kW*5.5 hrs/day)*(365 day/yr.)*(0.6 or 0.7 discount factor). The discount factor is a rough estimate of various loss factors. See "A Guide to Photovoltaic (PV) System Design and Installation, June 2001, (P500-01-020) for further information.
- 3. Wind calculations based on manufacturer's predicted monthly energy production for a site with average wind speeds of 11 mph and 14 mph.

Appendix 3 - Criteria for Listing Components as Eligible

This Appendix summarizes the criteria used for listing which components can be used to create a renewable energy system that is eligible for a rebate from the Renewable Energy System Rebate program.

The equipment must meet national or internationally recognized electrical standards or other appropriate criteria. Until the equipment is listed it is not eligible and no funding will be reserved. Equipment that has not met the aforementioned requirements will not be placed on the lists.

Systems using components that are not listed as eligible will not be issued a reservation or a payment. If a component becomes decertified according to the testing requirements described below, and is removed from the Energy Commission's lists of eligible components, applicants may be required to modify their systems by replacing the decertified component with a certified component before a payment is issued.

Generating equipment (solar modules, wind turbines...), inverters, and performance meters are periodically added and removed from the lists of eligible equipment.

A. Photovoltaic Modules

All flat plate photovoltaic modules must be certified by a nationally recognized testing laboratory as meeting the requirements of the Underwriters Laboratory (UL) Standard 1703. For concentrator modules, manufacturers of concentrator photovoltaic systems must provide acceptable evidence to the Energy Commission for each model of system they wish to sell under this program that the module model is listed by UL, or other nationally or internationally recognized testing institution, using test procedures and requirements as appropriate for the intended use.

B. Solar Thermal

No standards exist at present for solar thermal electric generating systems. In lieu of certification, manufacturers of solar thermal systems must provide acceptable evidence to the Energy Commission of one year of reliable operation for each model of system they wish to sell under this program.

C. Fuel Cells

All fuel cells must be certified as meeting the requirements of American National Standards Institute (ANSI) standard z21.83-199 for fuel cell power plants.

D. Small Wind

There are two options to achieve ERP eligibility for small wind systems:

1. Small wind turbines must be certified as meeting the requirements of a small wind turbine-specific safety and/or performance standard adopted by a national or international standards setting body, including, but not limited to IEC (International Electrical Code) 61400-2.

or

2. Manufacturers of small wind systems must provide monthly data of average energy produced (kWh) and average wind speed for one consecutive year for each model of system they wish to be considered eligible for this program to demonstrate reliable operation of that model of equipment at a site with average annual wind speeds of at least 12 mph.

E. Inverters

All inverters should be certified as meeting the requirements of UL 1741. However, in the case of large inverters, where the size of the inverter is larger than any other inverter listed on the list of eligible equipment, a reservation may be granted if the applicant submits a signed statement acknowledging that no incentive will be paid for any part of the system unless the inverter passes a field test meeting the requirements of UL 508C and Rule 21 (utility interconnection) at each site. Payment for such a system will only be made when the inverter is shown to meet either UL 1741 or the combined UL 508C and Rule 21 standard.

The methodology for rating inverters is based on the inverter efficiency at three quarter's load.

The Energy Commission also plans to review if changes should include adjusting the ratings for inverters with battery-backup to account for losses inherent in battery back-up systems.

F. Metering Criteria

Meters must retain the kilowatt-hour production data in the event of a power outage and must be easy to read for the customer's benefit. The meter must measure the total energy produced by the system in kilowatt hours (or watt hours) and have a manufacturer's uncertainty specification of plus or minus five percent.

G. Other Technologies

New technologies may be added by petitioning the Energy Commission, through the appropriate Committee. Applicants must submit the proper documentation satisfying of all of the following criteria:

- 1) Financial assistance is required for these technologies to become commercially viable.
- 2) The technology must be commercially available with at least one vendor available for the sale of the system.
- 3) Vendors of any generating systems employing the technology must offer at least a fiveyear full warranty on the entire generating system.
- 4) The technology must show at least one year of demonstrated reliable, predictable, and safe performance by a full-scale facility using this technology under field conditions.
- 5) The available data must show that generating systems using the technology have a useful design life of at least 20 years.
- 6) The technology must be designed so that it can produce grid-connected electricity.
- 7) The technology represents a new electricity generating process not well-represented among existing grid-connected renewable generating facilities, rather than some evolutionary or incremental improvements to renewable technologies used in existing renewable resource technology generating facilities (examples of such evolutionary or incremental improvements will be a) an improved blade design for wind turbines, b) less expensive well drilling techniques for geothermal, or c) a more efficient burner design for a biomass plant).
- 8) The project must be designed exclusively for the purpose of producing electricity for onsite use or sale (excluding demonstration projects that may sell to one specific customer), in contrast to a research or demonstration facility, which is designed primarily for collecting additional research data.

Appendix 4 - Maximum System Size Calculations

This appendix describes the methodology used to determine the maximum system size eligible for incentives from this program. The system size limitation will not affect systems less than 10 kW because the average annual residential electricity consumption in California is about 7000 kWh/yr. Commercial loads are almost certain to be higher. The maximum size of system that would primarily offset this average load, given conservative system production, is about 13 kW (200% * 7000 kWh / (.12*8760)).

A. Maximum System Size Calculations

The Energy Commission will determine the maximum size of eligible systems as follows:

1. New or expanded site electrical load

In the case of applicants with new or expanded facilities, where there is no electricity bill to attach or where the existing electricity bill does not reflect the applicant's expected expanded consumption, the applicant must submit an electricity bill when the system is complete or submit a signed statement by an architect, engineer or electrical contractor that the requisite electricity consumption is occurring or will occur at the site.

Applicants who are awarded Reservations based on new or expanded loads will only be paid the full amount of their requested reservation once they have submitted a bill that is consistent with their new or expanded estimated consumption and have otherwise satisfied the requirements for requesting a rebate payment. In most cases, applicants with systems 10 kW or less need only submit a bill verifying grid connection at the site of installation.

The Energy Commission will check the submitted electricity bill(s) for usage consistent with the expected load, and calculate the appropriate incentive payment as described above. If the Energy Commission calculates a reduced rebate amount, the applicant may submit subsequent utility bills within the following three months to receive their full reservation amount, provided there are sufficient program funds available at that time to make an additional payment.

2. Peak load capacity option

A customer may submit documentation that the proposed system is not greater than 200 percent of on-site peak demand (in kW) during any month. Documented historical information can be a utility statement within the last 12 months. For a new customer load or addition to present load, appropriate documentation can be a detailed energy use calculation, signed by a licensed electrical contractor.

The Energy Commission will calculate a "benchmark" production for the system using the following formula:

Benchmark Energy Produced = System Capacity(kW) x 1050kWh/year⁸.

This Benchmark Energy Produced (BEP) will be compared to the estimated annual consumption based on the utility bill submitted with the application. If the BEP is less than 200 percent of the estimated annual consumption, the full rebate requested will be reserved. If the BEP is greater than 200 percent of the estimated annual consumption, then the rebate reserved will be reduced by an amount equal to the ratio between the estimated annual consumption and the BEP.

The Energy Commission will compare the estimated annual consumption to the consumption reflected on the electricity bill submitted with the reservation form. In cases where the estimated annual consumption appears to be inconsistent with the electricity bill submitted (for example, when the monthly consumption shown on the electricity bill is less than 8.5 percent of the estimated annual consumption), the Energy Commission will request additional information from the applicant, and will not process the reservation until satisfactory information is received.

If the installed system exceeds the size limits justified by the applicant, then the incentive would be calculated based on the maximum allowable system size.

.

The annual energy produced by a photovoltaic system is influenced by many factors, including the amount of insolation (sunlight) at a particular geographic location, the orientation (tilt and direction) of the system, the degree of cloud cover, any shading that affects the system, and cleanliness. The BEP calculation above estimates the amount of energy produced by a system with a relatively low 12% capacity factor; that is, a system with relatively poor location, orientation, etc. This represents a conservative estimate of the energy that will be produced by a system. Most systems, with more favorable characteristics, will produce a greater amount of energy. However, a system installed in a relatively poor location with the intent of offsetting the onsite load should not be rejected through the use of an optimistic or even an average estimate of energy production. Therefore, using the BEP calculation for a relatively poorly performing system allows these systems to be eligible, consistent with the intent of SB 90. Using this calculation for all systems minimizes the administrative cost of predicting the energy produced by the system in relation to the load at the site.

Appendix 5 - Atypical Incentive Applications

A. New Construction (Building Permit)

For sites that currently do not have electrical service, a copy of the building permit for the new home or improvement must be included. Please identify the future electric service provider on the R1 reservation form. All approved applications for new construction will receive 18 month reservations.

B. New Housing Development

New home developers may purchase and install renewable energy systems as part of a new development before selling the home. The renewable energy system is often a feature that is included in the new home price. In most cases it is unclear who will purchase the home, when it will be sold, and how much the end-user pays for the system. Unlike individuals, developers will often purchase the system equipment in bulk and have an agreement with a subcontractor to install systems on various homes in the development.

New building construction projects (not remodeling projects) will receive an 18 month reservation period, but applicants must include a copy of the building permit with the reservation request. Applicants with an 18 month reservation period are not eligible for a time extension.

New construction reservation requests for systems greater than 30 kW in aggregate are not required to include an installation labor contract when installation is being performed by the builder's employees, but must still submit a purchase agreement for the equipment and separately list installation labor costs.

To obtain a rebate reservation for a new housing development where the sum of individual installed systems will total 30 kW or more, the developer may submit the following items instead of submitting separate documentation for each address:

- One Reservation Request Form (CEC 1038 R1) for the entire new housing development. The Reservation Request Form must be signed by the homebuilder (purchaser) and the seller (retailer, wholesaler or other supplier) of the electricity generation system. The reservation request must be accompanied by a detailed summary sheet containing the same information requested on the Reservation Request Form for each site (i.e., the physical addresses, generating system information, and system cost for each of the systems to be installed). This information may be listed directly on the form or incorporated by reference to the summary sheet or to the master purchase agreement.
- 2) One master purchase agreement for the entire new housing development. The master purchase agreement(s) for the equipment and installation labor must contain the following information: signature of homebuilder (purchaser) representative, seller of the generating equipment, and installer (unless a letter or installation agreement for each subcontractor stating the price charged for specified homes in the housing development

4

is provided); a list of the physical addresses of the system installations; the quantity, make and model of the electricity generating equipment and inverters to be installed at each address; the total cost of the equipment and/or labor; total eligible system cost and rebate requested for each address.

- 3) Payee Data Record (STD-204) for the recipient of the rebate payment.
- **Utility Interconnection.** As with other new construction, submit a simple statement identifying the electric utility and acknowledging that proof of interconnection will be provided prior to a payment claim.
- Final inspection signoff (at time of payment) submit documentation showing final inspection signoff for the housing development or an interconnection agreement listing all of the addresses at which the utility confirms that an eligible electricity generation system was correctly installed. See "Reservation and Payment Process" for additional paperwork required at the time payment is claimed.

C. Systems Installed by Sellers or Contractors for Their Own Personal or Business Use

Renewable energy system sellers (retailers, wholesalers, manufacturers...) or contractors who arrange to have a system installed on their own home or place of business may qualify for the full rebate only with certain documentation. To receive a reservation, the applicant must submit documentation consistent with that of an individual independently buying a system. When an equipment seller purchases equipment for the seller's own use, the purchase agreement (or proof of purchase) must be between the purchaser and the generating equipment supplier, in most cases, the wholesaler). If the labor installation is done by a contractor, the application will be treated as an owned installed system unless the contractor hires an independent company to do the system installation. The purchase and installation agreements must be between two independent entities. Documentation of a purchase between two principals or owners within the same entity or between spouses is not adequate, nor is a purchase agreement if signed by the same individual. The warranty requirements are the same as for self-installed systems.

D. Adding to Existing Systems

Additions to existing systems will only be allowed for systems that met past program requirements and were partially funded by participating in the Energy Commission's program. For these projects, the Energy Commission has the records and documentation identifying the equipment that was installed previously and the program warranty and system equipment standards and warranties that were met by the originally installed equipment. The newly added generating equipment must be selected from the current lists of eligible equipment and meet the current guidebook requirements. All of the current program eligibility criteria and documentation requirements apply to the added equipment.

If an addition (or a reservation request) to an existing system is made after July 1, 2004 and is at least 18 months after the final permit signoff from the last reservation, the rebate calculation will be based on the incremental watts added. For all other situations the rebate calculation will be based on the rated output of the final system installed (old and new equipment) as if the application were a new application on the date submitted minus the amount already paid.

Under no circumstance will the rebate for the added equipment exceed the current rebate for the incremental watts added.

Sample Calculation:

Existing reservation for \$9,800 @ 4.00 per watt (2,450 watts)
Adding 1 kW for total of 3,450 watts (no inverter capacity limitation)
Current rebate level is \$3.20
Total rebate available is:

3,450w x \$3.20/w for contractor installation = \$11,040

Additional rebate available in this case: \$11,040 - \$9,800 reserved = \$1,240

E. Special Requirements for Leased Systems

To ensure that leased systems are not prematurely removed from the site of installation, leased systems must remain at the original site of installation for a period not less than five years. The lease agreement must specify a lease term of no less than five years and must limit the lessor's remedies, in the event of breach, to monetary damages. The lease agreement may not permit the lessor to remove the system from the original site of installation because of the lessee's default or breach of the lease agreement. In addition, the lease agreement must clearly demonstrate that the program rebate benefits the lessee by directly and exclusively reducing the lease payments for the eligible system.

In determining the total cost of leased systems, the Energy Commission will not consider any finance, interest, insurance, maintenance costs, or any lease processing fees.

The rebate for leased systems will be paid to the retailer of the system or to the lessor as the system purchaser. The rebate will not be paid to the lessee.

The proof of agreement to lease must contain two sections. It must contain the proof of agreement by the lessor to purchase the system from the seller as described above. It must also contain the lease agreement between lessor and lessee and identify the physical address of the system, the quantity, make, and model of major system components, the lease term or duration, terms of payment, the total cost of the lease itemized so as to identify the capital cost and any financing, interest, insurance or maintenance cost and any fees, the total amount to be paid by the lessee over the term of the lease, indication that the rebate benefits the lessee by directly and exclusively reducing the lease payments for the eligible system, and the signatures of both the lessor and lessee.

F. Time Extension Requests

Time extensions to a reservation require prior approval by the Energy Commission's Renewables Committee and will be considered if requested in writing using the Time Extension Request Form (CEC 1038- R6) in Appendix 1. Time extension requests must meet the following criteria and be supported with documentation:

- Circumstances were beyond the control of the reservation holder that prevented the system from being installed as described in the reservation request. Describe the need and reasons for the request.
- 2. The initial permit to install the system must have been approved within two months of the date that the reservation was approved (provide a copy of the initial permit). If there was a problem in the permitting process and it was the cause of delay, provide documentation, such as any correspondence with the building department, to support this explanation.
- 3. Cost documentation must demonstrate that the system purchaser has incurred at least 50 percent of the reserved system's total purchase price. However, in cases where this amount exceeds the purchaser's contribution then the purchaser may still retain 10 percent of the total system cost and meet this cost documentation requirement. Attach copies of paid invoices, checks or other verifying documentation to the request form.

A time extension request shall be limited to three months of additional time for six month reservations. No time extensions are permitted for reservations with 18 month reservations. If approved, the extension period will be added to the reservation expiration date, regardless of when the request was approved by the Renewables Committee. Only one extension may be granted per reservation. If the request is approved, a new confirmation form will be mailed to the purchaser and seller. If disapproved, the applicant will be notified and instructed to reapply to the program under the terms and conditions in effect at the time that they reapply.

Extension requests must be submitted before the reservation expires. Requests made after the reservation expires will not be considered. Approval of a request for a change in expiration date will not change or modify any other reservation condition. Complete the CEC 1038 R6 form and mail the request with supporting documentation to:

ERP Extension Requests
California Energy Commission
1516 9th Street, MS-45
Sacramento, CA 95814

4